

Abstract

A non-contact electrical energy transfer system has a nearly continuous loop of ferromagnetic material that defines a gap. A first electric conductor is coiled about a portion of the nearly continuous loop that opposes the gap. A block of the same ferromagnetic material is sized to loosely fit in the gap while being spaced apart from each of the opposing surfaces defining the gap. A second electric conductor is coiled about the block. Electrical energy applied to the first electric conductor induces an electric current in the second electric conductor when the block is positioned in the gap.